

WO 99/64593

PCT/US99/12906

SEQUENCE LISTING

<110> INCYTE PHARMACEUTICALS, INC.

BANDMAN, Olga

LAL, Preeti

TANG, Y. Tom

CORLEY, Neil C.

GUEGLER, Karl J.

BAUGHN, Mariah R.

PATTERSON, Chandra

<120> CELL CYCLE REGULATION PROTEINS

<130> PF-0531 PCT

<140> To Be Assigned

<141> Herewith

<150> 60/088,695

<151> 1998-06-08

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<211> 197

<212> PRT

<213> Homo sapiens

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<221> misc_feature

<223> Incyte clone 037377

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Pro	Glu	Pro	Gly	Pro	Ser	Ser	Ser	Ile	Gly	Ser	Pro	Gln	Ala	Ser
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Val	Pro	Tyr	Thr	Val	Leu	Val	Asp	Glu	Glu	Ser	Gln	Arg	Glu	Pro
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Gly	Ala	Ser	Gly	Ala	Pro	Gly	Gln	Lys	Lys	Cys	Tyr	Ser	Cys	Pro
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Val	Cys	Ser	Arg	Val	Phe	Glu	Tyr	Met	Ser	Tyr	Leu	Gln	Arg	His
				95					100					105
Ser	Ile	Thr	His	Ser	Glu	Val	Lys	Pro	Phe	Glu	Cys	Asp	Ile	Cys
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Gly	Lys	Ala	Phe	Lys	Arg	Ala	Ser	His	Leu	Ala	Arg	His	His	Ser
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Ile	His	Leu	Ala	Gly	Gly	Gly	Arg	Pro	His	Gly	Cys	Pro	Leu	Cys
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Pro Arg Arg Phe Arg Asp Ala Gly Glu Leu Ala Gln His Ser Arg
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 Val His Ser Gly Glu Arg Pro Phe Gln Cys Pro His Cys Pro Arg
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 His Pro

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 Arg Gly Val Val Leu Phe Phe Ile Gly Val Phe Leu Ala Leu Val
 35 40 45
 Leu Asn Leu Leu Gln Ile Gln Arg Asn Val Thr Leu Phe Pro Pro
 50 55 60
 Asp Val Ile Ala Ser Ile Phe Ser Ser Ala Trp Trp Val Pro Pro
 65 70 75
 Cys Cys Gly Thr Ala Ser Ala Val Ile Gly Leu Leu Tyr Pro Cys
 80 85 90
 Ile Asp Arg His Leu Gly Glu Pro His Lys Phe Lys Arg Glu Trp
 95 100 105
 Ser Ser Val Met Arg Cys Val Ala Val Phe Val Gly Ile Asn His
 110 115 120
 Ala Ser Ala Lys Val Asp Phe Asp Asn Asn Ile Gln Leu Ser Leu
 125 130 135
 Thr Leu Ala Ala Leu Ser Ile Gly Leu Trp Trp Thr Phe Asp Arg
 140 145 150
 Ser Arg Ser Gly Phe Gly Leu Gly Val Gly Ile Ala Phe Leu Ala
 155 160 165
 Thr Val Val Thr Gln Leu Leu Val Tyr Asn Gly Val Tyr Gln Tyr
 170 175 180
 Thr Ser Pro Asp Phe Leu Tyr Val Arg Ser Trp Leu Pro Cys Ile
 185 190 195
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<212> PRT

<213> Homo sapiens

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<220>
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 Ala Ala Val Ala Gln Ala Pro Pro Ala Val Ala Ser Ser Ser Leu
 35 40 45
 Phe Asp Leu Ser Val Leu Lys Leu His His Ser Leu Gln Gln Ser
 50 55 60
 Glu Pro Asp Leu Arg His Leu Val Leu Val Val Asn Thr Leu Arg
 65 70 75
 Arg Ile Gln Ala Ser Met Ala Pro Ala Ala Ala Leu Pro Pro Val
 80 85 90
 Pro Ser Pro Pro Ala Ala Pro Ser Val Ala Asp Asn Leu Leu Ala
 95 100 105
 Ser Ser Asp Ala Ala Leu Ser Ala Ser Met Ala Ser Leu Leu Glu
 110 115 120
 Asp Leu Ser His Ile Glu Gly Leu Ser Gln Ala Pro Gln Pro Leu
 125 130 135
 Ala Asp Glu Gly Pro Pro Gly Arg Ser Ile Gly Gly Ala Ala Pro
 140 145 150
 Ser Leu Gly Ala Leu Asp Leu Leu Gly Pro Ala Thr Gly Cys Leu
 155 160 165
 Leu Asp Asp Gly Leu Glu Gly Leu Phe Glu Asp Ile Asp Thr Ser
 170 175 180
 Met Tyr Asp Asn Glu Leu Trp Ala Pro Ala Ser Glu Gly Leu Lys
 185 190 195
 Pro Gly Pro Glu Asp Gly Pro Gly Lys Glu Glu Ala Pro Glu Leu
 200 205 210
 Asp Glu Ala Glu Leu Asp Tyr Leu Met Asp Val Leu Val Gly Thr
 215 220 225
 Gln Ala Leu Glu Arg Pro Pro Gly Pro Gly Arg
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 <213> Homo sapiens

<220>
 <221> misc_feature
 <223> Incyte clone 1596581

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 Gln Asp Phe Asn Lys Val Val Phe Lys Lys Gln Lys Leu Leu Leu

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Pro	Met	Glu	Met	Arg	Tyr	Ile	Pro	Leu	Lys	Val	Ala	Leu	Phe	Tyr
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Leu	Leu	Asn	Pro	Tyr	Thr	Ile	Leu	Ser	Cys	Val	Ala	Lys	Ser	Thr
	65		70		75									
Cys	Ala	Ile	Asn	Asn	Thr	Leu	Ile	Ala	Phe	Phe	Ile	Leu	Thr	Thr
	80		85		90									
Ile	Lys	Gly	Ser	Ala	Phe	Leu	Ser	Ala	Ile	Phe	Leu	Ala	Leu	Ala
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Thr	Tyr	Gln	Ser	Leu	Tyr	Pro	Leu	Thr	Leu	Phe	Val	Pro	Gly	Leu
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Leu	Tyr	Leu	Leu	Gln	Arg	Gln	Tyr	Ile	Pro	Val	Lys	Met	Lys	Ser
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Lys	Ala	Phe	Trp	Ile	Phe	Ser	Trp	Glu	Tyr	Ala	Met	Met	Tyr	Val
	140		145		150									
Gly	Ser	Leu	Val	Val	Ile	Ile	Cys	Leu	Ser	Phe	Phe	Leu	Leu	Ser
	155		160		165									
Ser	Trp	Asp	Phe	Ile	Pro	Ala	Val	Tyr	Gly	Phe	Ile	Leu	Ser	Val
	170		175		180									
Pro	Asp	Leu	Thr	Pro	Asn	Ile	Gly	Leu	Phe	Trp	Tyr	Phe	Phe	Ala
	185		190		195									
Glu	Met	Phe	Glu	His	Phe	Ser	Leu	Phe	Phe	Val	Cys	Val	Phe	Gln
	200		205		210									
Ile	Asn	Val	Phe	Phe	Tyr	Thr	Ile	Pro	Leu	Ala	Ile	Lys	Leu	Lys
	215		220		225									
Glu	His	Pro	Ile	Phe	Phe	Met	Phe	Ile	Gln	Ile	Ala	Val	Ile	Ala
	230		235		240									
Ile	Phe	Lys	Ser	Tyr	Pro	Thr	Val	Gly	Asp	Val	Ala	Leu	Tyr	Met
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Ala	Phe	Phe	Pro	Val	Trp	Asn	His	Leu	Tyr	Arg	Phe	Leu	Arg	Asn
	260		265		270									
Ile	Phe	Val	Leu	Thr	Cys	Ile	Ile	Ile	Val	Cys	Ser	Leu	Leu	Phe
	275		280		285									
Pro	Val	Leu	Trp	His	Leu	Trp	Ile	Tyr	Ala	Gly	Ser	Ala	Asn	Ser
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Asn	Phe	Phe	Tyr	Ala	Ile	Thr	Leu	Thr	Phe	Asn	Val	Gly	Gln	Ile
	305		310		315									
Leu	Leu	Ile	Ser	Asp	Tyr	Phe	Tyr	Ala	Phe	Leu	Arg	Arg	Glu	Tyr
	320		325		330									
Tyr	Leu	Thr	His	Gly	Leu	Tyr	Leu	Thr	Ala	Lys	Asp	Gly	Thr	Glu
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Ala	Met	Leu	Val	Leu	Lys									
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<210> 5

<211> 757

<212> PRT

<213> Homo sapiens

<220>

<221> misc_feature

<223> Incyte clone 1853196

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20 25 30
Thr Pro Thr Asp Ser Cys Glu Pro Ala Pro Glu Cys Ser Ser Leu
35 40 45
Glu Gln Glu Glu Leu Gln Ala Leu Gln Ile Glu Gln Gly Glu Ser
50 55 60
Ser Gln Asn Gly Thr Val Leu Met Glu Glu Thr Ala Tyr Pro Ala
65 70 75
Leu Glu Glu Thr Ser Ser Thr Ile Glu Ala Glu Glu Gln Lys Ile
80 85 90
Pro Glu Asp Ser Ile Tyr Ile Gly Thr Ala Ser Asp Asp Ser Asp
95 100 105
Ile Val Thr Leu Glu Pro Pro Lys Leu Glu Glu Ile Gly Asn Gln
110 115 120
Glu Val Val Ile Val Glu Glu Ala Gln Ser Ser Glu Asp Phe Asn
125 130 135
Met Gly Ser Ser Ser Ser Ser Gln Tyr Thr Phe Cys Gln Pro Glu
140 145 150
Thr Val Phe Ser Ser Gln Pro Ser Asp Asp Glu Ser Ser Ser Asp
155 160 165
Glu Thr Ser Asn Gln Pro Ser Pro Ala Phe Arg Arg Arg Arg Ala
170 175 180
Arg Lys Lys Thr Val Ser Ala Ser Glu Ser Glu Asp Arg Arg Leu Val
185 190 195
Ala Glu Gln Glu Thr Glu Pro Ser Lys Glu Leu Ser Lys Arg Gln
200 205 210
Phe Ser Ser Gly Leu Asn Lys Cys Val Ile Leu Ala Leu Val Ile
215 220 225
Ala Ile Ser Met Gly Phe Gly His Phe Tyr Gly Thr Ile Gln Ile
230 235 240
Gln Lys Arg Gln Gln Leu Val Arg Lys Ile His Glu Asp Glu Leu
245 250 255
Asn Asp Met Lys Asp Tyr Leu Ser Gln Cys Gln Gln Glu Gln Glu
260 265 270
Ser Phe Ile Asp Tyr Lys Ser Leu Lys Glu Asn Leu Ala Arg Cys
275 280 285
Trp Thr Leu Thr Glu Ala Glu Lys Met Ser Phe Glu Thr Gln Lys
290 295 300
Thr Asn Leu Ala Thr Glu Asn Gln Tyr Leu Arg Val Ser Leu Glu
305 310 315
Lys Glu Glu Lys Ala Leu Ser Ser Leu Gln Glu Glu Leu Asn Lys
320 325 330
Leu Arg Glu Gln Ile Arg Ile Leu Glu Asp Lys Gly Thr Ser Thr
335 340 345
Glu Leu Val Lys Glu Asn Gln Lys Leu Lys Gln His Leu Glu Glu
350 355 360
Glu Lys Gln Lys Lys His Ser Phe Leu Ser Gln Arg Glu Thr Leu
365 370 375
Leu Thr Glu Ala Lys Met Leu Lys Arg Glu Leu Glu Arg Glu Arg
380 385 390
Leu Val Thr Thr Ala Leu Arg Gly Glu Leu Gln Gln Leu Ser Gly
395 400 405
Ser Gln Leu His Gly Lys Ser Asp Ser Pro Asn Val Tyr Thr Glu
410 415 420

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Lys Lys Glu Ile	Ala Ile Leu Arg Glu Arg	Leu Thr Glu Leu Glu
425	430	435
Arg Lys Leu Thr	Phe Glu Gln Gln Arg Ser Asp	Leu Trp Glu Arg
440	445	450
Leu Tyr Val Glu	Ala Lys Asp Gln Asn Gly Lys	Gln Gly Thr Asp
455	460	465
Gly Lys Lys Lys	Gly Gly Arg Gly Ser His Arg	Ala Lys Asn Lys
470	475	480
Ser Lys Glu Thr	Phe Leu Gly Ser Val Lys Glu	Thr Phe Asp Ala
485	490	495
Met Lys Asn Ser	Thr Lys Glu Phe Val Arg His	His Lys Glu Lys
500	505	510
Ile Lys Gln Ala	Lys Glu Ala Val Lys Glu Asn	Leu Lys Lys Phe
515	520	525
Ser Asp Ser Val	Lys Ser Thr Phe Arg His Phe	Lys Asp Thr Thr
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Lys Asn Ile Phe	Asp Glu Lys Gly Asn Lys Arg	Phe Gly Ala Thr
545	550	555
Lys Glu Ala Ala	Glu Lys Pro Arg Thr Val Phe	Ser Asp Tyr Leu
560	565	570
His Pro Gln Tyr	Lys Ala Pro Thr Glu Asn His	His Asn Arg Gly
575	580	585
Pro Thr Met Gln	Asn Asp Gly Arg Lys Glu Lys	Pro Val His Phe
590	595	600
Lys Glu Phe Arg	Lys Asn Thr Asn Ser Lys Lys	Cys Ser Pro Gly
605	610	615
His Asp Cys Arg	Glu Asn Ser His Ser Phe Arg	Lys Ala Cys Ser
620	625	630
Gly Val Phe Asp	Cys Ala Gln Gln Glu Ser Met	Ser Leu Phe Asn
635	640	645
Thr Val Val Asn	Pro Ile Arg Met Asp Glu Phe	Arg Gln Ile Ile
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Gln Arg Tyr Met	Leu Lys Glu Leu Asp Thr Phe	Cys His Trp Asn
665	670	675
Glu Leu Asp Gln	Phe Ile Asn Lys Phe Phe Leu	Asn Gly Val Phe
680	685	690
Ile His Asp Gln	Lys Leu Phe Thr Asp Phe Val	Asn Asp Val Lys
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Asp Tyr Leu Arg	Asn Met Lys Glu Tyr Glu Val	Asp Asn Asp Gly
710	715	720
Val Phe Glu Lys	Leu Asp Glu Tyr Ile Tyr Arg	His Phe Phe Gly
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<212> DNA

<213> Homo sapiens

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gcccata

1207

<210> 8

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<212> DNA

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<223> Incyte clone 236062

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<210> 9

<211> 1631

<212> DNA

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<223> Incyte clone 1596581

<400> 9

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<211> 3006

<212> DNA

<213> Homo sapiens

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<221> misc_feature

<223> Incyte clone 1853196

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cagtatctat attggaactg ccagtgatga ttctgatatt gttacccttg agccacctaa 420
gttagaagaa attggaatc aagaagttgt cattgttgaa gaagcacaga gttcagaaga 480
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tgcttttaga cgacgccgtg ctaggaagaa gaccgtttct gcttcagaat ctgaagaccg 660
gctagttgct gaacaagaaa ctgaaccttc taaggagtgt agtaaacgtc agttcagtag 720
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gctggaacgg aagctaacct tcgaacagca gcgttctgat ttgtgggaaa gattgtatgt 1440
tgaggcaaaa gatcaaaatg gaaaacaagg aacagatgga aaaaagaaag ggggcagagg 1500
aagccacagg gctaaaaata agtcaaagga aacatttttg ggttcagtta aggaaacatt 1560
tgatgccatg aagaattcta ccaaggagtt tgtaaggcat cataaagaga aaattaagca 1620

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ggctaaagaa gctgtgaagg aaaatctgaa aaaattctca gattcagtta aatccacttt 1680
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tgctacaaaa gaagcagctg aaaaaccaag aacagttttt agtgactatt tacatccaca 1800
gtataaggca cctacagaaa accatcataa tagaggccct actatgcaa atgatggaag 1860
gaaagaaaag ccagttcact ttaaagaatt cagaaaaaat acaaattcaa agaaatgcag 1920
tcctgggcat gattgtagag aaaattctca ttctttcaga aaggcttgtt ctgggtgtatt 1980
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ttcataataa ttttttatcc attttcatct ttatatcttg taacatgaaa cttacctaatt 2940
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tgtgta                                     3006

```

<210> 11

<211> 684

<212> DNA

<213> Homo sapiens

<220>

<221> unsure

<222> 269, 285, 295, 312, 366, 375, 378, 397, 406, 428, 495, 501, 503

<221> unsure

<222> 586, 592, 610, 613, 643

<223> a or g or c or t, unknown, or other

<220>

<221> misc_feature

<223> Incyte clone 108390F1

<400> 11

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cagtatatac attgggagaa tctgacttgc catgtaactg actaccactt aactgctgga 60
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ttgcttctgt caacagagtc tccctttgac taagaaagct gtgttttttc tgcttttctt 180
cttccaaatg ctgcttaagt ttctgatttt cttaaactaa ttcagtactt gtccctttat 240
cttccaatat tctaactctgt tctcttagnt tgtttaactc ttcnngtaat gaggntaagg 300
ctttttcttc cntctccagg gatactctta aatactgatt ttctgtagca aggttcgttt 360
ctgagnttca aaggncanct tctctgcttc agtaagnctc caacancttg caagatttct 420
ttcaatgnct tataatctat aaaagttctt gttcccgttg acacggggaa ggtaatcctc 480
atatcatcaa ttcancttca ngnatctttc tgactaactg ttgacgggtc tgaatctgaa 540
tgtgccatag gaatggccaa atcccatgct gattgcaatc accaangcaa gnataacaca 600
cttattgggn ccnctactga actgacgggt actcaactcc ttnggagggg cagttcttgt 660
tcagcaacta gccggtcttc agat                                     684

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<210> 12
 <211> 416
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <223> Incyte clone 1211009R1

<400> 12
 aagaattcta ccaaggagtt tgtaaggcat cataaagaga aaattaagca ggctaaagaa 60
 gctgtgaagg aaaatctgaa aaaattctca gattcagtta aatccacttt cagacacttt 120
 aaagatacca ccaagaatat ctttgatgaa aagggttaata aaagatttgg tgctacaaaa 180
 gaagcagctg aaaaaccaag aacagttttt agtgactatt tacatccaca gtataaggca 240
 cctacagaaa accatcataa tagaggccct actatgcaaa atgatggaag gaaagaaaag 300
 ccagttcact ttaaagaatt cagaaaaaat acaaattcaa agaaatgcag tcctgggcat 360
 gattgtagag aaaattctca ttctttcaga aaggcttggt ctggtgtatt tgattg 416

<210> 13
 <211> 609
 <212> DNA
 <213> Homo sapiens

<220>
 <221> unsure
 <222> 25, 152, 166, 169, 173, 174, 180, 183, 186, 192, 193, 198, 200
 <221> unsure
 <222> 205, 220, 230, 233, 236, 243, 246, 251, 285, 307, 309, 310, 317
 <221> unsure
 <222> 319, 329, 344, 345, 377, 475, 485, 556, 573, 583, 594
 <223> a or g or c or t, unknown, or other

<220>
 <221> misc_feature
 <223> Incyte clone 1211009T1

<400> 13
 aagaacatta tatttattca gaaanattaa gtatttcaaa ggtaaaaaat gaagctaaca 60
 tttgaagatt aggtaagttt catgttacag aatataaaga tgaaaatgga taaaaaatta 120
 ttatgaagta cacacattag aatttgactt gnttagtttg cctctntgng ccnntacctn 180
 tancanaggt anntatgngn ctaantatca taactaagcn ggtacatggn atnganaagt 240
 ganaanaggt nggacattag aaattattat atatgagctc ttctnacttc agagtaaaat 300
 ttgtgtngnn cattccnanc ttccaaaant gaataaatac atannagatt aaaggaaaat 360
 aatttcactt aagggtgntct tttcatataa actataatga gaagaaacaa acttggccaa 420
 agtaggattt tatatatctt taactgattt ttaagataga aaattaaacc atttnctcaa 480
 gtcanaagtga tcacgttata atgaaatggt ccatttgtaa cagctaataa tttttagact 540
 ccattcttca atttantctg aattctctca gtngccataa agncaactct tagnaacggt 600
 accttcaag 609

<210> 14
 <211> 189
 <212> DNA

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<213> Homo sapiens

<220>

<221> misc_feature

<223> Incyte clone 1352052H1

<400> 14

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cttcacatcc gtcctcctgt ctcagggctg gcagggggag cctggaatta cccctagtg 60
atggaatgac aggggtctggt ggggactgaa ttccctggcc ctgggggtcat agcttgggct 120
gttccttctc tgatacggga agagacccca atcagatttt tcaaattaaa gccagtcctg 180
ggaaatctc                                     189

```

<210> 15

<211> 473

<212> DNA

<213> Homo sapiens

<220>

<221> unsure

<222> 34, 59, 60, 134, 168, 311, 314, 344, 347, 354, 364, 391, 393, 401

<221> unsure

<222> 407, 413, 416, 426, 445, 446, 447, 453, 454, 459, 471

<223> a or g or c or t, unknown, or other

<220>

<221> misc_feature

<223> Incyte clone 1391767F1

<400> 15

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gaaaaaaaagg aaatagcaat cttacgggaa agantcactg agctggaacg gaagctaann 60
ttcgaacagc agcgttctga tttgtgggaa agattgtatg ttgaggcaaa agatcaaaaat 120
ggaaaacaag gaanagatgg aaaaaagaaa gggggcagag gaagccanag ggctaaaaat 180
aagtcaaagg aaacattttt gggttcagtt aaggaaacat ttgatgccat gaagaattct 240
accaaggagt ttgtaaggca tcataaagag aaaattaagc aggctaaaga agctgtgaag 300
gaaaatctga naanattctc agattcagtt aaatccactt tccnggnact ttanagtacc 360
cccnagggtg tctttgatga aaagggtaat nanagtttgg ngctacnaaa gangcnagct 420
gaaaanccag gacagttttt agggnnntat tgnnatccnc agtataaggc ncc 473

```

<210> 16

<211> 529

<212> DNA

<213> Homo sapiens

<220>

<221> unsure

<222> 119, 501

<223> a or g or c or t, unknown, or other

<220>

<221> misc_feature

<223> Incyte clone 1477338F1

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<400> 16

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ccccagatgt ggccgaactc atccggaccc ctatggaaat gcgttacatc cctttgaaag 60
tggccctgtt ctatctctta aatccttaca cgattttgtc ttgtgttgcc aagtctacnt 120
gtgccatcaa caacaccctc attgctttct tcattttgac tacgataaaa ggcagtgcctt 180
tcctcagtg c tttttttctt gccttagcga cataccagtc tctgtaccca ctcaccttgt 240
ttgtcccagg actcctctat ctctccagc ggcagtacat acctgtgaaa atgaagagca 300
aagccttctg gatcttttct tgggagtatg ccatgatgta tgtgggaagc ctagtggtaa 360
tcatttgcc ctccttcttc cttctcagct cttgggattt catccccgca gtctatggct 420
ttatactttc tgttcagat ctactccaa acattgggtc tttctggtag ttctttgcag 480
agatgtttga gcacttcagc ntcttctttg tatgtgtgtt cagatcaac 529

```

<210> 17

<211> 581

<212> DNA

<213> Homo sapiens

<220>

<221> unsure

<222> 372, 374, 445

<223> a or g or c or t, unknown, or other

<220>

<221> misc_feature

<223> Incyte clone 1520634F1

<400> 17

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gccatcccc tgcctcagc ctctggcatt ttctccgtt gagaccatgg agggccctcc 60
ccgtcggact tgccgtccc cagaacctgg acctctctcc tccatcggat cccccaggc 120
ttcatctcct ccaaggccca accactacct gcttattgac actcagggtg tccccacac 180
agtgtctgtg gacgaggagt cacagaggga gccaggggccc agtggggctc caggccagaa 240
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caagcgcgcc ancnacttgg cacggcacca ttccattcac ctggcggtg gtgggcggcc 420
ccacggtgc ccgctctgcc ctgcgcgttc cgggatgcgg gtgagctggc ccagcacagc 480
cgggtgca ctggggaacg cccgtttcag tgtcacactg cctcgccgtt tatggagaga 540
acacactgca gaaacacacg ggtggaagca tccatgagcg g 581

```

<210> 18

<211> 637

<212> DNA

<213> Homo sapiens

<220>

<221> unsure

<222> 462, 485, 510, 514, 550, 562, 602, 617, 622, 625, 629, 636

<223> a or g or c or t, unknown, or other

<220>

<221> misc_feature

<223> Incyte clone 1525569F6

<400> 18

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cagtaatcag ccagtcctg cctttagacg acgccgtgct aggaagaaga ccgtttctgc 60

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```

ttcagaatct gaagaccggc tagttgctga acaagaaaact gaaccttcta aggagttgag 120
taaacgtcag ttcagtagtg gtctcaataa gtgtgttata cttgcttttg tgattgcaat 180
cagcatggga tttggccatt tctatggcac aattcagatt cagaagcgtc aacagttagt 240
cagaaagata catgaagatg aattgaatga tatgaaggat tatctttccc agtgtcaaca 300
ggaacaagaa tcttttatag attataagtc attgaaagaa aatcttgcaa ggtgttggac 360
acttactgaa gcagagaaga tgcctttga aactcagaaa acgaaccttg ctaccagaaa 420
atcagtattt aagagtatcc ttggagaagg aagaaaaagc cntatcctca ttaccaggga 480
agagntaaac aaacttaaga ggaccagttn gganattgga agataaaggg gacaagtact 540
gaattagttn aaggaaaatc cngaaaacttt aagcagcctt tggaagaggg aaagccggaa 600
anacaccagc tttcctnagt cnaangggng accctnt 637

```

<210> 19
 <211> 187
 <212> DNA
 <213> Homo sapiens

<220>
 <221> unsure
 <222> 13, 19, 21
 <223> a or g or c or t, unknown, or other

<220>
 <221> misc_feature
 <223> Incyte clone 15547.75H1

```

<400> 19
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aagatggcgg aggcggggga tttctggtag gtcctacttt aggacaagat gtggtaccgt 120
tgaagcgtca gtctttgatt cacagacagt tgagcttttc agctgggaag cctttccatt 180
ttttttt 187

```

<210> 20
 <211> 499
 <212> DNA
 <213> Homo sapiens

<220>
 <221> unsure
 <222> 406, 435
 <223> a or g or c or t, unknown, or other

<220>
 <221> misc_feature
 <223> Incyte clone 1596581F6

```

<400> 20
aaaaagcaga aactcctcct agaactggac cagtatgcc cagatgtggc cgaactcatc 60
cggaccccta tggaaatgcg ttacatccct ttgaaagtgg cctgtttcta tctcttaa 120
ccttacacga ttttgtcttg tggtgccaag tctacctgtg ccatcaacaa caccctcatt 180
gctttcttca ttttgactac gataaaaggc agtgctttcc tcagtgtat ttttcttgcc 240
ttagcgacat accagtctct gtacccactc acctgtgttg tcccaggact cctctatctc 300

```

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```
ctccagcggc agtacatacc tgtgaaaatg aagagcaaag ccttctggat cttttcttgg 360
gagtatgcca tgatgtatgt gggaagccta gtggtaatca ttgtentctc cttcttcctt 420
ctcagctctt ggganttcac ccccgagtc taatggctta tactttctgt tccagatctc 480
atccaaacat tgggtcttt                                     499
```

<210> 21

<211> 287

<212> DNA

<213> Homo sapiens

<220>

<221> unsure

<222> 122, 144, 266, 273

<223> a or g or c or t, unknown, or other

<220>

<221> misc_feature

<223> Incyte clone 1596581T1

<400> 21

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ggcttgcccc agcttctggc cccacagccc cctgaggtcc atgcagccct gtgccagcca 60
ggcctacttg agcacgagca tggcctctgt gccatccttg gcggtcaagt agaggccatg 120
tntgaggtag tactccccgc gcangaaggc atagaagtaa tcagagatga gcaggatctg 180
cccaacgttg aaggtcagtg tgatggcata aaagaaatta gagttggcac ttctgcata 240
aatccagagg tgccacagga caggggnagaa cangggacag acgattt 287
```

<210> 22

<211> 579

<212> DNA

<213> Homo sapiens

<220>

<221> unsure

<222> 22, 25, 32, 106, 123, 126, 135, 208, 216, 219, 234, 236, 263, 271

<221> unsure

<222> 282, 287, 292, 358, 360, 363, 365, 379, 412, 441, 452, 459, 483

<221> unsure

<222> 485, 499, 500

<223> a or g or c or t, unknown, or other

<220>

<221> misc_feature

<223> Incyte clone 162871X4

<400> 22

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atttctggta ggtcctactt taggacaaga tgtggtaccg ttgaancgct agtctttgat 120
tcncanacag ttganccttt cagctgggaa gcctttccat tttttttttt aacggctttc 180
tgaacctatg aaacctatggc aaaagganaa acaaantcnc ctgggcccac aaantntggc 240
ccatatattt catctgtcac tanccaaatt ntgaacttga tnattcnagg antattgcta 300
ttttttattg gagtatttct tgcattagtg ttaaatttac ttcaaattca aaaaaatntn 360
acnncctttc cacctgatnt gattgcaagc atcttttctt ctgcatgctg tnattggggt 420
attatacccc tgcattaaca nacatctagg anaaccacnt aaatttaaaa aaaagtgggtc 480
```

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cantntaatg cgggtgtgtnn cagtctttgt tggataaat catgccagtg ctaaagtgga 540
 ttctgataac aacatacagt tgtctctcac actggcgca 579

<210> 23
 <211> 250
 <212> DNA
 <213> Homo sapiens

<220>
 <221> unsure
 <222> 8, 17, 24, 27, 33, 36, 43, 246
 <223> a or g or c or t, unknown, or other

<220>
 <221> misc_feature
 <223> Incyte clone 162871X92

<400> 23
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 ttctgctgtg attgggttat tatacccctg cattgacaga catctaggag aaccacataa 120
 atttaaaaga gagcgggtcca gtgtaatgcg gtgtgtagca gtctttgttg gtataaatca 180
 tgccagtgc aaagtggatt tcgataacaa catacagttg tctctcacac tggctgcaact 240
 atcttnaaaa 250

<210> 24
 <211> 250
 <212> DNA
 <213> Homo sapiens

<220>
 <221> unsure
 <222> 8
 <223> a or g or c or t, unknown, or other

<220>
 <221> misc_feature
 <223> Incyte clone 1658067H1

<400> 24
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 gattcctgag aaacatcttt gtcctcacct gcatcatcat cgtctgttcc ctgctcttcc 120
 ctgtcctgtg gcacctctgg atttatgcag gaagtgccaa ctctaatttc ttttatgcc 180
 tcacactgac cttcaacgtt gggcagatcc tgctcatctc tgattacttc tatgccttcc 240
 tgcggcggga 250

<210> 25
 <211> 736
 <212> DNA
 <213> Homo sapiens

<220>

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<221> unsure
 <222> 419, 435, 453, 462, 463, 471, 476, 513, 516, 563, 585, 586, 597
 <221> unsure
 <222> 611, 618, 652, 661, 680, 684, 685, 692, 693, 701, 714, 725, 731
 <223> a or g or c or t, unknown, or other

<220>
 <221> misc_feature
 <223> Incyte clone 1706512F6

<400> 25
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 aatatgaagt agataatgat ggagtatttg agaagttgga tgaatatata tatagacact 120
 tcttttggtca cactttttcc cctccatattg gacccagggtc ggtttacata aaaccgtgtc 180
 attacagtag tttgtaacat ttgtagattg gatagcattt ttatgatttg atgagtttct 240
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 ttgaaagatg ggagtcctaa aaatttaatt agccggttac caaatgggga ccttttccat 360
 tagtaacggt gattccacct ttggaccttt gagggcaaat gggtttaaat ttttttaanc 420
 ccttaaaaaa atccnggttt aaaggaatta ttnttaaaga annccccacc nttttngggc 480
 ccaagggtttt ggttttccct ttttccattt aanaanggtt ttaataatgg aaaaaaggat 540
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 aattttaaatt ncccccttnt gggaagccca aggggaatgga ggcccacccc cnaattttta 660
 nccccggaag gtccggaagn ggcnnccctat annaataatt nccaaagggtc cccncccaat 720
 tttcnctgg ncccat 736

<210> 26
 <211> 611
 <212> DNA
 <213> Homo sapiens

<220>
 <221> unsure
 <222> 213, 223, 369, 406, 423, 469, 475, 490, 494, 498, 524, 548, 570
 <221> unsure
 <222> 574, 582, 584, 594, 597, 605, 607
 <223> a or g or c or t, unknown, or other

<220>
 <221> misc_feature
 <223> Incyte clone 1722946F6

<400> 26
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 cgctgcccct tcagacctga aagatgtctg aaaattccag tgacagtgat tcatcttgtg 120
 gttggactgt catcagtcac gaggggtcag atatagaaat gttgaattct gtgaccccca 180
 ctgacagctg tgagcccgcc ccagaatggt cancttttaga gcnagaggag cttcaagcat 240
 tgcagataga gcaaggagaa tgcagccaaa atggcacagt gcttatggaa gaaactgctt 300
 atccagcttt ggaggaaacc agctcaacaa ttgaggcaga ggaacaaaag ataccggaag 360
 acagtatcna tattggaact gccagtggtg attctgatat tgttanccct tgagccacta 420
 agnttagaag gaattgggga tccaagaagt tgtcattggt gaagaaagnc caagntccgg 480
 agacttttan catnggntc ttctcttagc agccagtata cttntctggt cagcccagaa 540
 aactggantt tcatcttcag cctaattgacn gtgnaatcaa gntngtgatg gaanccngtt 600
 attcngnccc c 611

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<210> 27
 <211> 592
 <212> DNA
 <213> Homo sapiens

<220>
 <221> unsure
 <222> 94, 104, 149, 167, 215, 226, 232, 275, 298, 301, 312, 333, 362
 <221> unsure
 <222> 364, 367, 376, 391, 392, 395, 412, 415, 419, 429, 435, 443, 449
 <221> unsure
 <222> 452, 462, 463, 464, 466, 467, 468, 470, 476, 485, 489, 492, 502
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 <222> 514, 529, 533, 541, 550, 557, 558, 567, 572, 574, 577, 580
 <223> a or g or c or t, unknown, or other

<220>
 <221> misc_feature
 <223> Incyte clone 1853196F6

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 tggtaaaaaga actggatact ttttgtcant ggaacgaact tgatcanttc atcaataagt 180
 ttttcctaaa cgggtgtcttt atacatgatc agaancctctt cactgncttt gntaatgatg 240
 ttaaagatta tcttagaaac atgaaggata tgaantagat aatgatggag tatttgcnaa 300
 nttggatgga tntatatata gacacttctt tgntcacact ttttccccctc catatgggcc 360
 cngntcngtt tacatnaaac cgtgtcttac nntantttgt aacatttgta gntgnatanc 420
 attttttaant ttgangagtt tcntgtaang tnacggttcc annngnnntn ctttanagcc 480
 accanagana antcggataa antgaaagta gggntccaaa attattaant gtnccaatag 540
 nactttcctn ataaagnngt caccttngct tnanccnatn ggtttaattt tt 592

<210> 28
 <211> 447
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <223> Incyte clone 2238411F6

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 aagctccgga gctggacgag gccgaattgg actacctcat ggatgtgctg gtgggcacac 120
 aggcactgga gcgaccgccg gggccagggc gctgagccct cgtgctggaa tggttgctctg 180
 gtatctgaac tgagcctgct ggctggacca actgtcctcg aaaagacaca gctggccttc 240
 ctagtacaga gaacagggct tgggccactt tggagagaca gaatctagtc ctgggcaact 300
 tcacatccgt cctcctgtct cagggtggc agggggagcc tgggaattacc ccctagtgtat 360
 ggaatgacag ggtctggtgg ggactgaatt ccctggccct ggggtcatag cttgggctgt 420
 tccttctctg atacgggaag agacccc 447

<210> 29
 <211> 247

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<212> DNA
 <213> Homo sapiens

<220>
 <221> unsure
 <222> 234
 <223> a or g or c or t, unknown, or other

<220>
 <221> misc_feature
 <223> Incyte clone 2312928H1

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 tttccgagcg ggtggaggtg gtgtccccac tgagctcttg gaagagagtg gttgaaggcc 120
 tttcactgtt ggacttgga gtatctccgt attctggagc agtatttcat gaaactccat 180
 taataatata cctctttcat ttcctaattg actatgctga attggtgttt atgntaactg 240
 atgcact 247

<210> 30
 <211> 190
 <212> DNA
 <213> Homo sapiens
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 <221> unsure
 <222> 162, 163
 <223> a or g or c or t, unknown, or other

<220>
 <221> misc_feature
 <223> Incyte clone 3015795H1

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 tggtccttct ctgatacggg aagagacccc aatcagattt tnnaaattaa agccagtcct 180
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<210> 31
 <211> 253
 <212> DNA
 <213> Homo sapiens
 <220>
 <221> unsure
 <222> 121
 <223> a or g or c or t, unknown, or other

<220>
 <221> misc_feature

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<223> Incyte clone 3231214H1

<400> 31

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 catcttcttc atgtttatcc agatcgctgt catcgccatc ttttaagtcct acccgacagt 120
 nggggacgtg gcgctctaca tggccttctt ccccggtgtg aaccatctct acagattcct 180
 gagaaacatc tttgtctcca cctgcatcat catcgctctgt tccctggctc ttcctgtcc 240
 tgtggcacct ctg 253

<210> 32

<211> 273

<212> DNA

<213> Homo sapiens

<220>

<221> unsure

<222> 88

<223> a or g or c or t, unknown, or other

<220>

<221> misc_feature

<223> Incyte clone 3985439H1

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 gccccgcccc aaccttcctt cctagaccc tctctctctc cttcggttc tctcttctcg 180
 ccggcgccgc cagttcctgg ggcacacca gaggtccct tctcgccgc gctgcaact 240
 gcgagggtag cccggggcgc cttggagtgc ccc 273

<210> 33

<211> 618

<212> DNA

<213> Homo sapiens

<220>

<221> unsure

<222> 190, 336, 351, 413, 420, 423, 432, 441, 449, 454, 462, 510, 520

<221> unsure

<222> 524, 530, 552, 555, 557, 560, 561, 569, 574, 584, 585, 594, 596

<221> unsure

<222> 611, 614

<223> a or g or c or t, unknown, or other

<220>

<221> misc_feature

<223> Incyte clone 403002R6

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acagcatcac ccactcggag gttaaagccct tcgagtgtga catctgtggg aaggcattca 180
agcgcgccan ccacttggca cggcaccatt ccattcacct ggcggttggg gggcgcccc 240
acggctgccc gctctgccct cgcgcttcc gggatgcggg tgagtggccc aagcacagcc 300
gggtgcactc tggggaacgc ccgtttcagt gtcaanactg ctttcgccgg nttaaatgga 360
gcagaacaca attgcagaaa acaacaccgc ggttggaag catcccattg aanccggggn 420
ttncgggtt tncccaagg ntaccaaang gaantttttc anaggggaac cttgaaatt 480
ccctgttcca aaaaaacctt ggtaaaaaan ccctaaaggn tggntttttn aggggccttg 540
gaaaaacagg ancananggn nagggggant ttnaaaggg aaannccctt gccnanaagg 600
gggaatcccc naantaat                                     618

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<210> 34
 <211> 297
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <223> Incyte clone 510407R6

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<400> 34
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atggagtccct ctaggcctaaa gatatcagct gttccatggc agagccttga ctggatggag 120
gtggggagtg tgggtgtgtaa agtctctggc ctcataaaag gtggctgtgg gtcgtcagga 180
atctgcgcca tcttcctggg gcttctgcgc tgttggtggg gaagggaccc cagtcttgcc 240
ttccaccccc caaccaggcc tgagactgat caaacaataa acacgtttcc cactctg 297

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<210> 35
 <211> 239
 <212> DNA
 <213> Homo sapiens

<220>
 <221> unsure
 <222> 91
 <223> a or g or c or t, unknown, or other

<220>
 <221> misc_feature
 <223> Incyte clone 3590729H1

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<400> 35
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gacccatggc tgactgacag caaggcctat ngggaagaac tgggagctcc ccaacttgga 120
ccccacctt gtggctctgc acaccaagga gccccctccc agacaggaag gagaagaggc 180
aggtgagcag ggcttgtag attgtggcta cttaataaat gttttttgtt atgaagtct 239

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